

1 **Claims:**

2 We claim:

3 1. A method of decoding and analyzing a barcode comprising

4 the steps of:

5 imaging a barcode with mobile device equipped with a

6 digital camera;

7 transmitting the barcode image to a server via a

8 wireless network;

9 enhancing said barcode image utilizing said server;

10 decoding the barcode information from said enhanced

11 barcode image utilizing said server;

12 processing said barcode information using said server

13 to determine the media content associated with

14 said barcode information; and

15 transmitting said media content to the mobile device

16 via said wireless network.

17

18 2. A method of decoding and analyzing a barcode according

19 to Claim 1, wherein said enhancing of said barcode image by

20 said server comprises at least one of the steps of:

21 correcting said barcode image for skew;

22 correcting said barcode image for yaw;

23 correcting said barcode image for barcode sizing;

1 correcting said barcode image for rotation of said
2 barcode from the normal position;
3 sharpening the pixels in said barcode image; and
4 enhancing the edges of said barcode in said barcode
5 image.

6

7 3. A method of decoding and analyzing a barcode according
8 to Claim 1, wherein said decoding of said barcode comprises
9 the steps of:

10 calculating the number of edges in said barcode image;
11 loading a first symbology library;
12 comparing said number of edges to a predetermined
13 threshold require for said symbology library; and
14 decoding said barcode from said barcode image
15 utilizing said symbology library.

16

17 4. A method of decoding and analyzing a barcode according
18 to Claim 3, wherein a plurality of other symbology
19 libraries are loaded if said number of edges is less than
20 said predetermined threshold.

21

22 5. A method of decoding and analyzing a barcode according
23 to Claim 3, wherein said step of decoding said barcode from

1 said barcode image utilizing said symbology library
2 comprises the steps of:
3 locating the start of said barcode in said barcode
4 image;
5 calculating the width of character blocks within said
6 barcode image;
7 calculating the relative widths of each bar and space
8 within said character blocks; and
9 decoding each character from said character blocks
10 utilizing said symbology library.

11
12 6. A method of decoding and analyzing a barcode according
13 to Claim 5, wherein said step of decoding said barcode from
14 said barcode image utilizing said symbology library
15 comprises the steps of:

16 verifying that said decoded barcode information is
17 valid utilizing a checksum calculation.

18
19 7. A method of decoding and analyzing a barcode according
20 to Claim 1, wherein said mobile device is at least one of
21 the group consisting of a camera phone, mobile phone, smart
22 phone, PDA, pager, pocket PC or laptop computer.

23

1 8. A method of decoding and analyzing a barcode according
2 to Claim 1, wherein said barcode is constructed from at
3 least one of the standardized barcode symbology libraries
4 consisting of the group of UPC-A, UPC-E, ISBN, RSS-14, RSS-
5 14E, RSS-14L, Interleaved 2 of 5, EAN/JAN-8, EAN/JAN-13,
6 Code 3, Code 39 Full ASCII, Code 128, PDF417, QR Code, or
7 Data Matrix.

8

9 9. A method of decoding and analyzing a barcode according
10 to Claim 1, wherein said media content is a search result
11 of a database constructed from said barcode information.

12

13 10. A method of decoding and analyzing a barcode according
14 to Claim 1, wherein said media content transmitted to said
15 mobile device is product information.

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17 11. A method of decoding and analyzing a barcode according
18 to Claim 1, wherein said wireless network is a WAP network.

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20 12. A method of decoding and analyzing a barcode according
21 to Claim 1, wherein said barcode image is transmitted to
22 said server via a MMS message.

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1 13. A system for decoding and analyzing a barcode
2 comprising:
3 at least one machine readable barcode;
4 at least one mobile device equipped with a digital
5 camera for imaging said barcode to create a
6 barcode image;
7 a wireless network; and
8 a server for receiving said barcode image, decoding
9 said barcode image to extract barcode
10 information, processing said barcode information
11 via said wireless network, wherein said server
12 transmits media content to said mobile device
13 after processing said barcode information.

14

15 14. A system for decoding and analyzing a barcode
16 according to Claim 13, wherein said server enhances said
17 barcode image by performing the steps of:
18 correcting said barcode image for skew;
19 correcting said barcode image for yaw;
20 correcting said barcode image for barcode sizing;
21 correcting said barcode image for rotation of said
22 barcode from the normal position;
23 sharpening the pixels in said barcode image; and

1 enhancing the edges of said barcode in said barcode
2 image.

3

4 15. A system for decoding and analyzing a barcode
5 according to Claim 13, wherein said decoding of said
6 barcode by said mobile device comprises the steps of:

7 calculating the number of edges in said barcode image;
8 loading a first symbology library;
9 comparing said number of edges to a predetermined
10 threshold require for said symbology library; and
11 decoding said barcode from said barcode image
12 utilizing said symbology library.

13

14 16. A system for decoding and analyzing a barcode
15 according to Claim 15, wherein said step of decoding said
16 barcode from said barcode image utilizing said symbology
17 library comprises the steps of:

18 locating the start of said barcode in said barcode
19 image;
20 calculating the width of character blocks within said
21 barcode image;
22 calculating the relative widths of each bar and space
23 within said character blocks; and

1 decoding each character from said character blocks
2 utilizing said symbology library.

3

4 17. A system for decoding and analyzing a barcode
5 according to Claim 15, wherein a plurality of other
6 symbology libraries are loaded by said mobile device if
7 said number of edges is less than said predetermined
8 threshold.

9

10 18. A system for decoding and analyzing a barcode
11 according to Claim 13, wherein said mobile device is at
12 least one of the group consisting of a camera phone, mobile
13 phone, smart phone, PDA, pager, pocket PC, desktop, or
14 laptop computer.

15

16 19. A system for decoding and analyzing a barcode
17 according to Claim 13, wherein said barcode is constructed
18 from at least one of the standardized barcode symbology
19 libraries consisting of the group of UPC-A, UC-E, ISBN,
20 RSS-14, RSS-14E, RSS-14L, Interleaved 2 of 5, EAN/JAN-8,
21 EAN/JAN-13, Code 3, Code 39 Full ASCII, Code 128, PDF417,
22 QR Code, or Data Matrix.

23

1 20. A system for decoding and analyzing a barcode
2 according to Claim 13, wherein said media content is a
3 search result of a database constructed from said barcode
4 information.

5

6 21. A system for decoding and analyzing a barcode
7 according to Claim 13, wherein said media content
8 transmitted to said mobile device is product information
9 about said manufactured good.

10

11 22. A system for decoding and analyzing a barcode
12 according to Claim 13, wherein said wireless network is a
13 WAP network.

14

15 23. A system for decoding and analyzing a barcode
16 according to Claim 13, wherein said barcode image is
17 transmitted to said server via a MMS message.

18

19 24. A method of decoding and analyzing a barcode according
20 to Claim 1, wherein said media content is transmitted to
21 said mobile device via a MMS message.

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1 25. A method of decoding and analyzing a barcode according
2 to Claim 1, wherein said media content is transmitted to
3 said mobile device via a SMS message.